



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,139	02/27/2004	Yoshinobu Yamakita	038440-0106	4646

22428 7590 03/24/2006

FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

SMITH, SHEILA B

ART UNIT	PAPER NUMBER
----------	--------------

2617

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/787,139

Applicant(s)

YAMAKITA, YOSHINOBU

Examiner

Sheila B. Smith

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-6 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dam et al. in view of Hiramatsu (U.S. Patent Number 6,600,935).

Regarding claim 1, Dam et al. discloses essentially all the claimed invention as set forth in the instant application, further Dam et al. discloses a method and system for handling radio signals in a radio base station. In addition Dam et al. discloses a base station apparatus, comprising: a plurality of connectors (beams 1-8) used for connection to a plurality of antennas (460) respectively; a plurality of transmission/reception circuits (420) performing transmission/reception using said plurality of antennas (460); and an antenna switching unit (490) provided between said plurality of connectors (beams 1-8) and said plurality of transmission/reception circuits (420) and modifying (which reads on switching) a connection relation between said plurality of connectors (beams) and said plurality of transmission/reception circuits (420) (which is exhibited in figure 7 and disclosed in paragraph 0033). However Dam et al. fails to disclose correct erroneous connections that have occurred during installation work of said base station apparatus.

In the same field of endeavor, Hiramatsu discloses radio transmission device and transmission directivity adjusting method. In addition Hiramatsu discloses to correct erroneous

Art Unit: 2681

connections that have occurred during installation work of said base station apparatus (which reads on column 3 lines 6-13).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Dam et al. by modifying method and system for handling radio signals in a radio base station with a correct erroneous connections that have occurred during installation work of said base station apparatus as taught by Hiramatsu for the purpose of ensuring the transmission directivity is adjusted while employing the correction values.

2. Claims 2,4,5⁶ are rejected under 35 U.S.C. 103(a) as being unpatentable over Dam et al. in view of Hiramatsu and further in view of Martin et al. (U.S. Patent Number 6,397,083).

Regarding claims 2 and 4, Dam et al. in view of Hiramatsu discloses everything as applied above, additionally Dam et al. in view of Hiramatsu discloses a plurality of antennas (450, 460), however the combination of Dam et al. in view of Hiramatsu fails to disclose a plurality of antennas are divided into a plurality of groups, a number of which is equal to a number of said plurality of transmission/reception circuits, said base station apparatus further comprises a control unit, and when said antenna switching unit is at an initial state, said control unit obtains properties of said plurality of antennas via said plurality of connectors, determines to which of said plurality of groups each of said plurality of antennas should belong, based on said obtained properties, and causes a state of said antenna switching unit to make a transition from said initial state to a use state suitable for use.

In the same field of endeavor, Martin et al. discloses bootstrapped, piecewise asymptotic directivity pattern control mechanism setting weighting coefficients of phased array antenna. In addition Martin et al. discloses the use of a plurality of antennas are divided into a plurality of groups (which reads on column 5 lines 39-41), a number of which is equal to a number of said plurality of transmission/reception circuits (which reads on column 5 lines 42-45), said base station apparatus further comprises a control unit (300), and when said antenna switching unit is at a initial state, said control unit obtains properties of said plurality of antennas via said plurality of connectors (which reads on weighting circuit), determines to which of said plurality of groups each of said plurality of antennas should belong, based on said obtained properties, and causes a state of said antenna switching unit to make a transition from said initial state to a use state suitable for use (which reads on column 5 lines 36-65).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Dam et al. by modifying method and system for handling radio signals in a radio base station with a plurality of antennas are divided into a plurality of groups, a number of which is equal to a number of said plurality of transmission/reception circuits, said base station apparatus further comprises a control unit, and when said antenna switching unit is at a initial state, said control unit obtains properties of said plurality of antennas via said plurality of connectors, determines to which of said plurality of groups each of said plurality of antennas should belong, based on said obtained properties, and causes a state of said antenna switching unit to make a transition from said initial state to a use state suitable for use, as taught by Martin et al. for the purpose of providing a significant amount of system flexibility and improved efficiency of system capacity.

Regarding claim 5, Dam et al. in view of Hiramatsu discloses everything as applied above, additionally Dam et al. discloses wherein said plurality of elements are resistance elements (which reads on paragraph 0011).

Regarding claim 6, Dam et al. in view of Hiramatsu discloses everything as applied above, additionally Dam et al. discloses a plurality of transmission/reception circuits comprises a test transmission/reception circuit and a second transmission/reception circuit, wherein said antenna switching unit comprises a switching portion have N inputs for respectively connecting to said plurality of connectors, said switching portion having N outputs, said plurality of connectors being N in number (which reads on paragraph 0033), N being a positive even integer greater than or equal to four; and a first connection switch having N internal switches respectively connected at one end to said N outputs of said switching portion (which reads on paragraph 0034), a first subset of said N internal switches being respectively connected at another end to said first transmission/reception circuit and a second subset of said N internal switches being respectively connected at another end to said second transmission/reception circuit, all of said N internal switches being included in either said first subset or said second subset, but not both (which reads on paragraph 0033 and 0034).

Allowable Subject Matter

3. Claim 3 allowed.
4. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


Art Unit: 2681

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheila B. Smith whose telephone number is (571)272-7847. The examiner can normally be reached on Monday-Thursday 6:00 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Smith 
March 14, 2006


JOSEPH FEILD
SUPERVISORY PATENT EXAMINER